Malaria Detection

Malaria is a life-threatening disease caused by parasites that are transmitted to people through the bites of infected female Anopheles mosquitoes. It is preventable and curable.

* In 2017, there were an estimated 219 million cases of malaria in 90 countries.
* Malaria deaths reached 435 000 in 2017.
* The WHO African Region carries a disproportionately high share of the global malaria burden. In 2017, the region was home to 92% of malaria cases and 93% of malaria deaths.

Malaria is caused by Plasmodium parasites. The parasites are spread to people through the bites of infected female Anopheles mosquitoes, called "malaria vectors." There are 5 parasite species that cause malaria in humans, and 2 of these species – P. falciparum and P. vivax – pose the greatest threat.

***Diagnosis of malaria can be difficult***:

* Where malaria is not endemic any more (such as in the United States), health-care providers may not be familiar with the disease. Clinicians seeing a malaria patient may forget to consider malaria among the potential diagnoses and not order the needed diagnostic tests. Laboratorians may lack experience with malaria and fail to detect parasites when examining blood smears under the microscope.
* Malaria is an acute febrile illness. In a non-immune individual, symptoms usually appear 10–15 days after the infective mosquito bite. The first symptoms – fever, headache, and chills – may be mild and difficult to recognize as malaria. If not treated within 24 hours, P. falciparum malaria can progress to severe illness, often leading to death.

### Steps to solve the problem :-

1. Importing Libraries.
2. Loading the data.
3. Data preprocessing.
4. Data augmentation.
5. Ploting images and its labels to understand how does an infected cell and uninfected cell looks like.
6. Spliting data in Train , Evaluation and Test set.
7. Training the data on Train data.
8. Evaluating on evaluation data.
9. Predicting on Test data
10. Ploting the predicted image and its respective True value and predicted value